Targeted Research Area: Other—Sudden Infant Death Syndrome (SIDS)

General Information on SIDS

- **Prevalence and incidence of SIDS:**
  - SIDS is the leading cause of death in infants between 1 month and 1 year of age. Most SIDS deaths occur when a baby is between 1 and 4 months of age.[91]
  - Between 1992 and 1997, the U.S. SIDS rate declined 38 percent from 1.2 deaths per 1,000 live births to 0.77 deaths per 1,000 live births.[92]
  - The decline in SIDS rate correlates with a decline in the proportion of infants who are placed to sleep on their stomachs and with an increase in the proportion of infants placed on their backs to sleep. [93]
  - The prevalence of infants placed prone to sleep declined at a steady rate between 1992 and 1997, from 70 percent to 21 percent. Since the initiation of the "Back to Sleep" campaign, there has been a substantial increase in infants being placed to sleep on their backs, from 27 percent in 1994 to 53 percent in 1997.[94]

- **Mortality from SIDS:** In 1999 there were 2,648 deaths from SIDS, accounting for 9.5% of all infant deaths; SIDS mortality rate is 66.9 deaths per 100,000 live births.

- **Disease severity/disease burden:** This information was not readily available to Lewin.

- **Cost to individual/family/society/healthcare system:** This information was not readily available to Lewin.

- **Frequency/load of exposure:** This information was not readily available to Lewin.

- **Special Populations:** Males are at greater risk for SIDS than females; African American infants are twice as likely to die of SIDS as white infants; American Indian infants are nearly three times more likely to die of SIDS as white infants; more SIDS deaths occur in colder months.[95]

Hypothesis 29, described on the following pages, is associated with the Other Specialized Research Areas – SIDS targeted research area.

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91 Center for Disease Control and Prevention. National Vaccine Program. Facts about SIDS. Available at http://www.cdc.gov/od/nvpo/fs_tableVII_doc5.htm.

92 NICHD Pregnancy and Perinatology Branch. Report to the NACHHD Council. January 2000.

93 Ibid.

94 Ibid.

95 http://www.nichd.nih.gov/publications/pubs/sidsfact.htm. Prepared by NICHD Public Information and Communiations Branch April 1997

Hypothesis #29: Infectious bacterial agents such as Helicobacter pylori, Staphylococcus aureus, and Escherichia coli and their toxins may be causal factors for SIDS.

General Information Related to Hypothesis #29

- **Findings from the recent research (targeted search):** Information reported in the following study contributed to the above-mentioned hypothesis.

Study #1: Blackwell CC, Weir DM. The role of infection in sudden infant death syndrome. FEMS Immunology and Medical Microbiology 1999;25:1-6.

Study #1 hypothesis being tested: Infection from the toxins of invasive bacterial agents such as Helicobacter pylori, Staphylococcus aureus, Escherichia coli, Bordetella pertussis, and Haemophilus influenza may cause SIDS.

Study #1 findings: Study findings are inconclusive. Data showed no direct evidence as to how inflammatory mediators, in response the bacterial toxins, could cause fatal alterations in the physiology of the infant. However, an infectious etiology fits the known risk factors of SIDS: specific age range affected, nocturnal deaths, exposure to cigarette smoke, overheating, high incidence in lower socioeconomic groups and in some ethnic groups in which serious respiratory infections are major causes of infant deaths. As such, SIDS deaths may be due to patho-physiological responses elicited by microbial products and/or cigarette smoking that impede an infant's endocrine system's ability to combat inflammatory mediators.